**Rational Expressions Partner Activity**

**Directions:**  You and your partner will work together to complete these rational expression problems. Partner A will complete the problems on the left and Partner B will complete the problems on the right.  When you are done, your answers should match. If not, work together to find and correct your mistake.

*For #1-3, simplify the rational expression. Don’t forget to list any domain restrictions.*

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| --- | --- | --- | --- |
| **1.** | $$\frac{x-5}{7x-35}$$ | **1.** | $$\frac{x+3}{7x+21}$$ |
| **2.** | $$\frac{x^{2}-2x-15}{x-5}$$ | **2.** | $$\frac{x^{2}+x-6}{x-2}$$ |
| **3.** | $$\frac{x^{2}-x-12}{x^{2}-9x+20}$$ | **3.** | $$\frac{x^{2}-4x-21}{x^{2}-12x+35}$$ |

*For #4-8, multiply or divide the rational expressions and simplify.*

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| --- | --- | --- | --- |
| **4.** | $$\frac{6x+9}{3x-15}⋅\frac{x-5}{4x+6}$$ | **4.** | $$\frac{x+5}{2x-2}⋅\frac{x^{2}+4x-5}{x^{2}+10x+25}$$ |
| **5.** | $$\frac{x^{2}+2x-8}{7}⋅\frac{7x+21}{x^{2}+7x+12}$$ | **5.** | $$\frac{5x+50}{x+10}⋅\frac{x-2}{5}$$ |
| **6.** | $$\frac{x^{2}+8x+12}{3x+9}⋅\frac{x+3}{x^{2}+2x-24}$$ | **6.** | $$\frac{x^{2}+6x+8}{9x+45}⋅\frac{3x+15}{x^{2}-16}$$ |
| **7.** | $$\frac{x^{2}+10x+16}{x^{2}+6x+8}÷\frac{1}{x+4}$$ | **7.** | $$\frac{x^{2}+11x+24}{x^{2}+5x+6}÷\frac{1}{x+2}$$ |
| **8.** | $$\frac{x^{2}-9}{x^{2}+7x+12}÷\frac{x^{2}-5x+6}{x^{2}-8x+12}$$ | **8.** | $$\frac{x^{2}-5x-6}{x^{2}+6x+5}÷\frac{x^{2}-x-20}{x^{2}-25}$$ |